Appendix IV

Physiotherapy Laboratories - School of Medical and Health Sciences (MHS)

1. REGULATIONS FOR USING EXERCISE SCIENCES AND KINESIOLOGY LABORATORY (GYM LAB)

Exercise Sciences and Kinesiology Laboratory is located at KPC 701. All users of Gym Lab should read through the following specific regulations.

1.1 Users should acknowledge that they have read and understood the assumption of risk prior to using the Gym Lab.

1.2 Users should affirm that they are in good physical and mental condition to exercise and those unaccustomed to exercising are recommended to seek the advice of a medical professional before engaging in physical activity. Users who feel unwell while using our facilities, should stop the activity immediately and approach our staff for assistance.

1.3 Users unfamiliar with equipment should ask staff for assistance.

1.4 All users must sign in at the log book located at each equipment.

1.5 Proper training attire should be worn at all times while using the facilities. No jeans or street clothes will be permitted. Proper training shoes should be worn. No open-toed slippers or sandals, and no training without a shirt.

1.6 Please carry your own gear for personal hygiene. Sweat should promptly be wiped off the machines and the floor after each use.

1.7 For convenience to others, weights, dumbbells and equipment must be returned to their original places immediately after use. Do not drop or bang weights on floor. For safety, please do not work out too closely to mirrors. Individuals may be charged for the damage due to carelessness.

1.8 Eating, drinking and gum chewing is prohibited in the Gym Lab.

1.9 Guests are not permitted to use the Gym Lab except with the prior approval from PT staff.

1.10 To maintain a safe environment and prohibit inappropriate situations, users should always adhere to instructions from the PT Staff and report any faults or defects immediately to them if found.

Reference: https://cse.hku.hk

2. REGULATIONS FOR THE ELECTROTHERAPEUTICS AND DIAGNOSTIC LABORATORY (ED LAB) & NEURO-REHABILITATION AND TECHNOLOGIES LABORATORY (NEURO LAB)

Electrotherapeutics and Diagnostic Laboratory is located at KPC 1404, and Neuro-rehabilitation and Technologies Laboratory is located at KPC 1401. All users of ED Lab and Neuro Lab should read through the following specific regulations.

2.1 Equipment in EDL & NEURO may utilize electromagnetic radiation, laser and electrical current, so the brief introduction on their nature, risk and protective measures are presented.

2.1.1 Radiation

(a) Brief description

Electromagnetic radiation is categorized by ionizing radiation (including X-ray radiation) and non-ionizing radiation. Ionizing rays have frequencies of over $3*10^{15}$ Hz (X-ray, gamma ray, cosmic ray) and non-ionizing rays of only Hz to 10^{15} Hz. **NO utilization of ionizing radiation is allowed in the EDL & NEURO.**

Type of radiation		**Wavelength**	**Frequency**
Non-ionizing	Microwave rays	1-1000 mm	300-0,3 GHz
	IR-straling	0,78-1000 mm	385-0,3 THz
	Visible light	400-780 nm	750-385 THz
	UV rays	100-400 nm	3000-750 THz
Ionizing radiation		< 100 nm	< 3000 THz

Warning sign for non-ionizing radiation

(b) Risks

(i) Severe effects following exposure to UV radiation are sunburn and inflammation of the cornea and conjunctiva of eyes.

(ii) Long-term effects are skin cancer and cataracts.

(iii) In practice, the background exposure in the open air is used as a threshold value.

(c) Measures

When using sources of non-ionizing radiation, the following rules apply:

(i) Keep a safe distance away from the radiation sources.

(ii) Screen the radiation sources from the user.

(iii) Disconnect equipment when not in use.

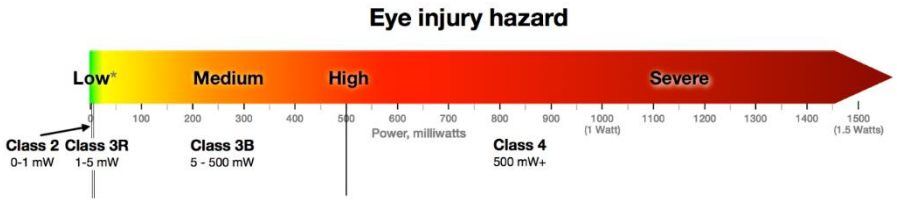
(iv) Use protective equipment, such as IR safety goggles, UV safety goggles or face masks, welding masks and protective gloves and clothing.

2.1.2 Laser

(a) Brief description

A laser (**L**ight **A**mplification by **S**timulated **E**mission of **R**adiation) is a radiation source that emits a very intense bundle of electromagnetic rays that can deliver a large amount of energy to a limited surface.

Lasers are classified in Arabic numerals (1, 2, 3R, 3B, 4) or in Roman numerals (I, II, IIIa, IIIb, IV). The first two Classes are relatively safe for eye exposure; the last two are hazardous. The chart below shows how the eye injury hazard increases as the laser's power increases.



(b) Risks

Lasers can damage skin and the eye through the creation of heat.

Besides risks to eyes or skin, there are other risks involved in working with lasers:

(i) The presence of open voltage and high voltage within the housing.

(ii) X-rays (emitted with voltages higher than 5 kV)

(iii) Emission of harmful vapours or gases while working on materials

(c) Measures

(i) When lasers are in use, the warning sign near the door will be illuminated.

(ii) Operators are given information by PT technical officer on the risks and safety measures.

(iii) Safety laser goggles is provided by PT technical officer, which only offer protection from laser beams emitted by the type of laser for which the goggles are designed.

Warning sign for Laser radiation

2.1.3 Electrical safety

(a) Brief description

Electrical current may be accidentally pass through human body due to faulty exposure of the conducting cable of the machine, lack of or improper earthing of equipment, improper circuit connection, faults in an appliance and so on.

(b) Risks

(i) Death can occur from any shock that carries enough sustained current to stop the heart.

(ii) 70–700 mA: usually trigger fibrillation in the heart, which is nearly always fatal without help.

(iii) 30 mA AC or 300-500 mA DC: applied to the body surface can cause fibrillation.

(iv) Large currents (> 1 A) cause permanent damage via burns and cellular damage.

(c) Measures

(i) Regular technical inspection of equipment by engineer or PT technical officer is necessary.

(ii) PT technical officer check all PT equipment for wear and tear of leads, sockets, plugs, electrodes, connections, wire insulation, indicator lights, dials, switches, and control.

(iii)PT technical officer Make sure cables of all electrical appliances are durable and protective rubber insulator.

Reference :

1. https://www.wur.nl/
2. http://www.lasersafetyfacts.com/laserclasses.html

3. REGULATIONS FOR THE MUSCULOSKELETAL BIOMECHANICS LABORATORY (MSK LAB)

Musculoskeletal Biomechanics Laboratory is located at KPC 1003. All users of MSK Lab should read through the following specific regulations.

3.1 Anatomical models

(a) Brief description

MSK houses the muscular and skeletal models of whole or selected parts of the human body such as models of arms, legs, and torso as well as ligament models of ankles, knees and elbows.

(b) Safety precautions

(i) Taking models outside MSKL is NOT allowed.

(ii) Move by carrying base of model or wheels.

(iii)Model and base should be set on a flat surface at all times.

(c) Maintenance

(i) Use cold or warm water or mild antibacterial cleaner to clean models.

(ii) DO NOT USE rubbing alcohol or cleaning product solutions.

3.2 Traction

(a) Brief description

The Triton traction device provides a treatment in static, intermittent, and cyclic distraction forces to relieve pressures on structures that may be causing pain of skeletal or muscular origin (cervical, thoracic, lumbar, hip, wrist, shoulder). Therapeutic distraction can be applied in a variety of programmable patterns, cycles and functions.

(b) Safety precautions

(i) STOP use if the Traction Cord is frayed, damaged or knotted.

(ii) Do not attempt to repair the Traction Cord.

(iii) Do not use the Clevis as a handle to pick up or carry the unit.

(iv) The unit will not work if the Patient Interrupt Switch is not connected, or if it is malfunctioning.

(v) The unit must be securely attached to the mounting surface of the pedestal or traction stand.

(vi) Disconnect the traction unit from the power source before attempting any maintenance, installation, removal, or replacement procedures to prevent electrical shock and possible damage to the unit.

(vii) Test the Patient Interrupt Switch cable before use. The Patient Interrupt Switch must be in the patient's grasp.

(viii)In the event of a loss of power to the unit or when quick release is needed, traction tension should only be released by having the patient move towards the traction head to release the tension on the rope. Once the tension on the rope has been released, loosen the patient harness adjustment straps.

(ix) In the event that an Error message or Warning appears beginning with a 2 or 3, immediately stop all use of the system and contact the PT Technical Officer.

(c) Maintenance

(i) Cleaning

(I) Before cleaning, disconnect the unit from the power source. Periodically, clean the system with a clean, lint free cloth moistened with water and mild antibacterial soap or antimicrobial cleaner.

(II) Do not submerse the system in water.

(III) Clean unit display lens using a soft damp cloth, moistened with warm water and soap if necessary. DO NOT USE alcohol or chlorine based solvents as this may damage the display.

(ii) Preventive maintenance and calibration

(I) Inspection and lubrication of the device is regularly performed by PT Technical Officer.

(II) Annual calibration of the Triton traction unit is performed by PT Technical Officer.

3.3 Sharp Box

(a) If any sharp objects such as acupuncture needles are used, there should be a sharp box to hold the used acupuncture needles.

Source:

1. https://blog.schoolspecialty.com/need-know-anatomical-model/
2. User manual – Triton traction

4. REGULATIONS FOR CARDIOVASCULAR AND RESPIRATORY REHABILITATION LABORATORY (CARDIO LAB)

Cardiovascular and respiratory rehabilitation Laboratory is located at KPC 702. All users of CARDIO Lab should read through the following specific regulations.

INFECTION CONTROL MEASURES

4.1 Hand Hygiene

Good hand hygiene is critical to reduce the risk of spreading health care-associated infection including multi-drug resistant organisms (MDROs). Use of alcohol-based hand rubs facilitates hand hygiene, increases compliance and irritates hands less (Appendix I). Hand hygiene can be achieved by rubbing hands with 70-80% alcohol-based formulation or washing hands with soap and water.

4.2 Personal Protective Equipment (PPE)

The use of PPE provides a physical barrier between micro-organisms and the user, which reduces exposure risk but does not eliminate the infectious hazard. Besides, it does not replace basic infection control measures such as hand hygiene. PPE should be stored in appropriate area free from dampness, sunlight and dirt. They need to be examined for the expiry date and checked regularly to ensure integrity.

(a) Gloves

(i) Should be worn when there is an anticipated risk that hands would be contacted with blood or body fluids, secretions, excretions, non-intact skin, mucus membrane and potentially infectious material; or handling or touching visibly or potentially contaminated equipment and environmental surfaces.

(ii) Use of gloves does not replace the need for hand hygiene.

(iii) Perform hand hygiene immediately after removal of gloves.

(iv) Selection of powder free gloves is recommended since this avoids interactions with the alcohol-based hand rub and also the gritty feeling on hands.
(v) Do not reuse disposable gloves.
(vi) Appropriate gloves sizes and types should be readily available.

(b) Gowns: Should be worn to protect skin and clothing during procedures or activities that are likely to generate splashes or sprays of blood, body fluids, excretions and secretions.

(c) Face protection: masks, goggles, face shields

(i) Use of mouth, nose and eye protection during procedures that are likely to generate splashes or sprays of blood or other body fluids.
(ii) Surgical Masks: to protect themselves from contact with infectious material;
(iii) N95 respirator: for potential exposure to infectious agents transmitted via airborne route and performing aerosol generating procedures. Staff should have fit test to ensure appropriate respirator selection and use. A seal check (formerly called a fit check) should be performed.
(iv) Goggles and Face Shields: To protect the mucus membrane of the eye, nose and mouth. Personal eyeglasses and contact lenses are NOT considered adequate eye protection

(d) Suggested Sequence of PPE Removal

In order to keep mucosal protection intact throughout, the suggested sequence of PPE removal in a designated location inside a designated room, or after performing high risk nursing procedure is as follows:

(i) Remove gloves → Perform hand hygiene.
(ii) Remove gown → Perform hand hygiene.
(iii) Remove disposable cap → Perform hand hygiene.
(iv) Remove eye protection → Perform hand hygiene.
(v) Remove mask/N95 respirator → Perform hand hygiene.
(vi) Put on a surgical mask.

4.3 Patient Care Equipment

Decontamination of reusable PT instruments is necessary to prevent transmission of organisms between students. Disinfection is used to eliminate many or all pathogenic microorganisms, except bacterial spores, on inanimate objects. Sterilization is used to destroy or eliminates all forms of microbial life. Standard Precautions should be applied when handling used instruments.

Before disinfection and sterilization, thorough cleaning is essential because inorganic and organic materials that remain on the surfaces of instruments interfere with the effectiveness of these processes. Instruments should be categorized according to the risks they pose for

patients, such as Critical items, Semi-critical items and Non-critical items.

Reference: https://www.chp.gov.hk

5. ACCIDENT/INCIDENT REPORTING

(e) Any incident occurring in laboratory during school hours must be reported immediately to School or Laboratory Technician.

(f) After school hours, the incident should be reported to Security Control Room at Tel. 3190 6610 (emergency response)

(g) All incidents must be reported to Security Control Room and School Executive Officer within 24 hours or the following working day.

(h) Be prepared to provide the Security Guard with sufficient details for an incident report.